

PROVIDING A PROTECTED VOLUME ON A DATA STORAGE DEVICE

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ABSTRACT

10       The invention establishes a protected volume on a data  
storage device associated with a computational device by  
allowing an operating system of the computational device to  
boot up to a point (the volume conversion crossover point) at  
which predetermined functionality of the operating system  
15 becomes available, then establishing the protected volume. A  
copy of the operating system data (cleartext operating system  
data) that is accessed during boot up prior to the volume  
conversion crossover point (which can be known by monitoring  
and recording access to operating system data during boot-up)  
20 is stored in an unprotected region of the data storage  
device. A copy of the cleartext operating system data is  
also stored in the protected volume. After the protected  
volume is established, the computational device is reset,  
causing the operating system to boot up again. During each  
25 boot-up of the operating system after the protected volume  
has been established, the cleartext operating system data is  
used until the volume conversion crossover point, at which  
time operation of the computational device converts to a  
secure mode (if authorized) in which data stored on the data  
30 storage device can be accessed from the protected volume  
(including the copy of the cleartext operating system data  
that is stored in the protected volume).